



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5  
77 WEST JACKSON BOULEVARD  
CHICAGO, IL 60604-3590

**FEB - 1 2016**

REPLY TO THE ATTENTION OF:

Susan Casey-Lefkowitz  
Natural Resources Defense Council  
1200 New York Avenue, NW  
Washington, DC 20005

Re: Freedom of Information Act (FOIA) Request EPA-HQ-2016-002700, referral from U.S. Department of State regarding FOIA Case Number F-2011-02141, Segment L001

Dear Ms. Casey-Lefkowitz:

In December, 2015, EPA received a referral from the U.S. Department of State (DOS), indicating that several documents identified in DOS's processing of your DOS FOIA Case Number F-2011-02141 had originated with EPA. EPA was asked to review these documents and respond to you directly. We have reviewed these documents and determined all are releasable. They are enclosed.

These documents related to EPA review and comment on the Keystone XL pipeline, the Enbridge Southern Lights pipeline, and the Enbridge Alberta Clipper pipeline. They are:

- 1) EPA (Environmental Impact Statement (EIS)) Scoping comments to Ms. Elizabeth Orlando of DOS for: 1) Enbridge Pipelines (Southern Lights) L.L.C. (Lsr Project), and 2) Enbridge Energy, Limited Partnership (Alberta Clipper Project), dated September 10, 2007;
- 2) EPA comments to Col. Michael F. Pfenning of the Corps of Engineers on Corps of Engineers Special Public Notice Number 2006-5527-LAG under Section 404 of the Clean Water Act for the Lsr and Alberta Clipper pipelines, dated October 5, 2007;
- 3) EPA comments to Ms. Elizabeth Orlando, DOS, on the Final EIS for the Alberta Clipper Pipeline project, dated July 2, 2009;
- 4) EPA letter to Mr. Matthew McManus, DOS, regarding the status of the 90-day interagency review process under Executive Order 13337 for the TransCanada Keystone Pipeline (Keystone XL), dated July 1, 2010;
- 5) EPA comments, including detailed comments attachment, to Mr. Jose Fernandez and Ms. Kerri-Ann Jones, DOS, on the Draft EIS for the Keystone XL pipeline project, dated July 16, 2010;
- 6) EPA comments to Mr. Jose Fernandez and Ms. Kerri-Ann Jones, DOS, on the Supplemental Draft EIS for the Keystone XL pipeline project, dated June 6, 2011.

You may appeal this response to:

National Freedom of Information Officer  
U.S. EPA, FOIA and Privacy Branch  
1200 Pennsylvania Avenue, N.W. (2822T)  
Washington, DC 20460 (U.S. Postal Service Only)  
E-mail: [hq.foia@epa.gov](mailto:hq.foia@epa.gov).

Only items mailed through the United States Postal Service may be delivered to 1200 Pennsylvania Avenue, NW. If you are submitting your appeal via hand delivery, courier service or overnight delivery, you must address your correspondence to 1301 Constitution Avenue, N.W., Room 6416J, Washington, DC 20001. Your appeal must be made in writing, and it must be submitted no later than 30 calendar days from the date of this letter. The Agency will not consider appeals received after the 30-calendar-day limit. The appeal letter should include the FOIA number listed above. For quickest possible handling, the appeal letter and its envelope should be marked "Freedom of Information Act Appeal."

There are no billable costs associated with preparing this FOIA response, as EPA incurred less than 2 hours of search time.

If you have any questions or concerns, please feel free to contact Ken Westlake of my staff at 312-886-2910 or [westlake.kenneth@epa.gov](mailto:westlake.kenneth@epa.gov).

Sincerely,



Robert A. Kaplan  
Deputy Regional Administrator

Enclosures (documents listed above)

Cc: Geoffrey Hermesman, US. Department of State



L812

SEP 10 2007

REPLY TO THE ATTENTION OF:

B-19J

Ms. Elizabeth Orlando  
OES/ENV Room 2657  
U.S. Department of State  
Washington, DC 20520

Transferred to EPA for DIRECT REPLY

NO OBJECTION TO FULL RELEASE

Re: U.S. EPA Scoping Comments for: (1) Enbridge Pipelines (Southern Lights) L.L.C. (LSr Project), and (2) Enbridge Energy, Limited Partnership (Alberta Clipper Project)

Dear Ms. Orlando:

The United States Environmental Protection Agency, Region 5 (U.S. EPA) reviewed the United States Department of State's (DOS) Notices of Intent (NOIs), dated July 27, 2007, for the above referenced petroleum pipeline projects. The NOIs identify that DOS proposes to prepare Environmental Assessments (EAs) to comply with the National Environmental Policy Act (NEPA) prior to determining whether or not to issue Presidential Permits. DOS issues Presidential Permits for the construction, connection, operation, and maintenance at the border of the United States of facilities for the export and import of petroleum to and from a foreign country.

The NOIs identify the proposed projects will be located in Region 5 and Region 8, but the majority of the proposed projects will be located in Region 5. Region 5 is the lead region for U.S. EPA on these two projects. In accordance with our responsibility and authority under NEPA and Section 309 of the Clean Air Act, we offer this letter with enclosed comments on both NOI identified proposals for your consideration as you proceed with preparing the NEPA documents.

One NOI identifies a proposal (LSr Project) by Enbridge Pipeline (Southern Lights) L.L.C (Enbridge) to construct and operate a 313-mile long pipeline and related facilities, to deliver 186,000 barrels per day (bpd) of petroleum, from a supply hub near Cromer, Manitoba, Canada, to Clearbrook, Minnesota. The U.S. portion of the proposal includes 136 miles of new 20-inch-diameter pipeline and related facilities from the U.S.-Canada border near Neche, North Dakota to Enbridge's existing tank farm in Clearbrook, Minnesota. Enbridge proposes to construct the LSr pipeline generally along Enbridge's existing pipeline right-of-way (ROW) between Neche, North Dakota and Clearbrook, Minnesota. The LSr Project would generally require a 100-foot-wide construction ROW.

The other NOI identifies a proposal (Alberta Clipper Project) by Enbridge Energy, Limited Partnership (Enbridge) to construct and operate a 992-mile long pipeline and related facilities to deliver 450,000 bpd of petroleum from Hardisty, Alberta, Canada to Superior, Wisconsin. The

proposed expansion in the U.S. would include the construction of approximately 326 miles of new 36-inch-diameter pipeline from the U.S.-Canada border near, Necho, North Dakota, across Minnesota, to Enbridge's existing tank farm in Superior, Wisconsin. The proposed Alberta Clipper Project would be constructed within or adjacent to the same Enbridge existing right-of-way (ROW) as the LSr Project between the U.S.-Canadian border near Necho, North Dakota, through Clearbrook, Minnesota, to Superior, Wisconsin. It is proposed that a 140-foot-wide construction ROW would be required. This NOI also identifies that Enbridge proposes to construct an additional pipeline concurrently and within a portion of the same pipeline corridor adjacent to the Alberta Clipper Project between Clearbrook, MN and Superior, WI. However, the NOI does not provide any additional information (i.e., project name, purpose, description, construction ROW requirements) other than to state that it will not require a Presidential Permit.

I represented U.S. EPA during DOS's August 17, 2007, interagency meeting/conference call concerning the Enbridge proposals. The principal points I made on behalf of U.S. EPA, and continue to make, is that DOS provide information to the other agencies that clearly names and describes each of the pending Enbridge projects, with a clear statement as to what other projects (e.g., terminal and refinery modifications, expansions, new constructions, and additional pipelines) are to be considered connected actions under NEPA and/or would be included in cumulative impacts analysis for the individual Enbridge projects. I also continue to recommend that DOS prepare an Environmental Impact Statement (EIS) for the Alberta Clipper Project because of the potential for significant impacts, in part, to wetlands and aquatic resources, surface water quality/quantity, tribal lands, public lands, forest lands and wildlife habitat.

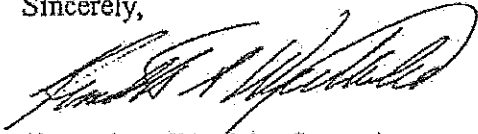
We strongly support the use of the U.S. Army Corps of Engineers (Corps) Individual Clean Water Act Section 404 permits for projects such as these that will have substantial amounts of wetlands and stream impacts.

The following permits from U.S. EPA, Region 5 will be needed for any portion of Enbridge's Alberta Clipper proposal and connected actions that would occur within the exterior boundaries of the Leech Lake and/or Fond du Lac Indian Reservations: (1) Clean Water Act (CWA) Section 402 National Pollutant Discharge Elimination System (NPDES) discharge permit for discharges to waters of the U.S. from ground water pump out or process water associated with pipeline hydrostatic pressure testing, and (2) CWA Section 401 water quality certification for Corps CWA Section 404 wetland permits, water body crossings or discharge into waters of the U.S. U.S. EPA contact information is provided in the enclosure.

At this time, we request you keep both Region 5 and Region 8 apprised of any future interagency meetings/conference calls. We would appreciate a 30-day advance notice of all meetings/calls. For your future reference, please send three (3) complete hard copies and three (3) CDs of the future NEPA documents to each reviewing Region by the start of the NEPA public comment periods. The Region 5 contact is Ms. Virginia Laszewski (contact information below). The Region 8 contact is Mr. Richard Clark. Mr. Clark may be reached by calling 303/312-6748 or email at [clark.richard@epa.gov](mailto:clark.richard@epa.gov).

We look forward to reviewing DOS's NEPA documents for Enbridge's proposed projects. If you would like to discuss the content of this letter and enclosure in more detail, please contact Virginia Laszewski of my staff at 312/886-7501 or email her at [laszewski.virginia@epa.gov](mailto:laszewski.virginia@epa.gov).

Sincerely,



Kenneth A. Westlake, Supervisor  
NEPA Implementation  
Office of Enforcement and Compliance Assurance

Enclosure: 1

cc: Larry Svoboda / Richard Clark, U.S. EPA, Region 8  
Tamara Cameron, U.S. Army Corps of Engineers, St. Paul District

**U.S. EPA Scoping Comments to Department of State Concerning:  
(1) Enbridge Energy, Limited Partnership (Alberta Clipper Project), and  
(2) Enbridge Pipelines (Southern Lights) L.L.C. (LSr Project)**

Based on the information in the Department of State's (DOS) Notice of Intent (NOIs), we offer the following comments for consideration as DOS prepares the NEPA documents for the above referenced Enbridge Projects.

**Description of Proposed Enbridge Projects and Connected Actions** - In the United States, Enbridge proposes to construct the LSr Project and the Alberta Clipper Project as separate petroleum products pipeline projects located along the same existing Enbridge right-of-way (ROW). However, the NOI for the Alberta Clipper Project also identifies an unnamed third petroleum products pipeline project proposed by Enbridge that would also be located along the same ROW. Each pending Enbridge project should be clearly named and described, with a clear statement as to what other projects (e.g., terminal and/or refinery modifications, expansions, new constructions, and/or additional pipelines, power lines, etc.) are to be considered connected actions under NEPA and/or will be included in cumulative impacts analysis for the individual Enbridge projects.

The NEPA documents should identify the Midwest refineries as well as the terminals that will receive the petroleum product/s from each proposed Enbridge pipeline. In addition, the NEPA documents should identify whether or not each refinery or terminal will need to be expanded and/or upgraded in order to refine and/or handle the type and amount of petroleum product delivered. Any impacts to resources such as air and water quality associated with any refinery or terminal upgrades, expansions or new projects should be identified and discussed in the NEPA documents.

**Enbridge's Existing Right-of-Way (ROW)** - A description of Enbridge's existing ROW from Neche, North Dakota, through Minnesota, to Superior, Wisconsin should be included in the NEPA documents. This should include, but need not be limited to, identifying the existing ROW width, the number and location of existing access roads, and the number, purpose, age and condition of existing pipelines within the ROW. The NEPA document should also identify whether Enbridge implements a vegetation management plan to control the growth and spread of noxious weeds and exotic species and identify the current status of invasive species within the existing ROW.

We recommend a vegetation management plan be prepared to address control of plant intrusions. The plan should list the noxious and exotic plants that occur in the resource area. In cases where the weeds are a threat, U.S. EPA recommends the document detail a strategy for prevention, early detection of invasion, and control procedures for each species. Should an infestation occur or already be present, EPA supports integrated weed management (e.g., effective mix of education and prevention, biological, mechanical, chemical management, etc.). However, we encourage prioritization of management techniques that focus on non-chemical



treatments first, with reliance on herbicides being the last resort. We recommend implementing yearly review and planning activity requirements for the above concerns, including evaluation of effectiveness to date.

**Alternatives** - It is our understanding that portions of the Alberta Clipper Project may need to be routed away from the existing ROW to get around various sensitive areas, such as tribal lands. In order to avoid, in part, degrading undisturbed landscapes/wildlife habitat, we recommend Enbridge and DOS develop and analyze pipeline route alternatives that utilize other utility, roadway, or railroad ROW, whenever feasible.

**Ground and Surface Water Quality** - The NEPA Documents should clearly describe water bodies and ground water resources within the analysis area that may be impacted by the proposed project. Special attention should be given to work that would occur in an identified sole source aquifer, or wellhead (drinking water) protection zone, or upstream of a drinking water intake. An analysis of the area's geology, topography, soils and stream stability in terms of erosion and mass failure potential may be necessary to adequately evaluate for the potential risks to surface and subsurface water quality and quantity. Appropriate State-identified Best Management Practices (BMPs) to reduce potential non-point sources of pollution from these projects proposed activities should be designed into the project.

Events such as vehicular spills of hazardous or toxic materials could result in significantly more adverse impacts to habitat and water quality. The NEPA documents should discuss the frequency or likelihood of such events, and describe spill and release response capabilities. Stormwater management should also be evaluated. If, any corrosion preventatives are applied to the inside of the pipes, DOS should describe the potential contamination of waters due to runoff of these chemicals and how these chemicals would be managed safely. To protect water quality from storm water runoff, including contaminated runoff from construction, operation, and maintenance activities, specific BMPs should be implemented.

#### **U.S. EPA, Region 5 Contacts for Clean Water Act Permits – Tribes**

The following permits from U.S. EPA, Region 5 will be needed for any portion of Enbridge's Alberta Clipper proposal and connected actions that would occur within the exterior boundaries of the Leech Lake Indian Reservation and/or Fond du Lac Indian Reservation:

- Clean Water Act (CWA) Section 402 National Pollutant Discharge Elimination System (NPDES) discharge permit for discharges to waters of the U.S. from ground water pump out or process water associated with pipeline hydrostatic pressure testing. For permit information contact John Colletti, phone: 312/886-6106, email: [colletti.john@epa.gov](mailto:colletti.john@epa.gov).
- CWA Section 401 water quality certification for U.S. Army Corps of Engineers (Corps) CWA Section 404 wetland permits, water body crossings or discharge into waters of the U.S. For 401 certification information contact Janice Cheng, phone: 312/353-6424, email: [cheng.janice@epa.gov](mailto:cheng.janice@epa.gov).

We recommend DOS include the U.S. EPA 402 permit and 401 certification contact information in the NEPA Documents. Please note that U.S. EPA CWA 402 discharge permits and 401 water quality certifications only cover the area within the exterior boundaries of Indian Reservations. These programs are implanted by the states of North Dakota, Minnesota, and Wisconsin for areas not located within the Indian Reservations.

**Wetlands, Streams, Rivers and Lakes** – Under Section 404 of the Clean Water Act (CWA), a permit is required from the Corps for the discharge of dredge or fill material into waters of the U.S. We strongly support the use of the Corps Individual Clean Water Act Section 404 permits for projects with substantial amounts of wetlands and stream impacts, such as these will have.

Identification and assessment of the proposed projects' direct and indirect impacts to waters of the U.S. (i.e., wetlands, streams, rivers, lakes) should be included in the NEPA documents. The NEPA documents should identify all wetlands (by location, size and type). This would include the identification of any existing wetland mitigation sites and wetland mitigation banks. The assessments should provide a characterization of each water body's existing condition regarding water quality and aquatic resources. Details regarding the widths of proposed water bodies to be crossed, including wetlands, and the methods – directional drill or otherwise – should be identified and discussed in the NEPA documents. We recommend the use of directional drilling for all perennial water crossings and their associated floodplains and wetlands, when feasible.

Activities permitted under CWA Section 404 should neither degrade high quality waters nor make impaired waters worse. The NEPA document should identify if any of the water body stream/river segments or lakes are listed as impaired on the CWA Section 303(d) lists for each state and for what reasons. For impairments such as habitat loss, nutrients or sediment that may be affected by dredge or fill activities, special care must be taken to ensure that the project does not make the situation worse. This would take the form of documenting baseline conditions and additional mitigation addressing the pollution potential of the crossing of that water body and of the project-affected area draining to that water body. The NEPA documents should identify emergency procedures for drilled water body crossings, in the event of a bentonite leak.

We strongly advise that the NEPA documentation demonstrate that proposed pipeline routes were identified to first avoid, and then minimize wetland impacts. After avoidance and minimization have been demonstrated, the NEPA document should include a Mitigation Plan (Plan) that identifies additional minimization measures that will be undertaken during project construction and operation. The Plan should also include a compensatory mitigation plans for those impacts that remain. Wherever feasible, impacts to forested wetlands, bogs and fens should be avoided. These types of wetlands are difficult to replicate. We note that the Alberta Clipper Project, due in part to its length and the areas it would go through, is likely to impact many of these aquatic resources.

Impacts of the various pipelines and alternatives on water quality should address, but not be limited to, a water body's designated use and compliance with applicable Water Quality



Standards and CWA Section 401 Water Quality Certification. Any storm water detention basins deemed necessary, due to project implementation activities, should neither be located in wetlands nor discharge directly into wetlands or waters of the U.S. without appropriate pretreatment. If hydrostatic testing is proposed, then water source and discharge areas should be identified and impacts evaluated. Details of the testing methods and the locations and amounts of test water needed should be identified. Specific mitigation measures that would be undertaken by Enbridge to prevent and enhance the quality of the receiving waters should be identified. Measures to protect the spread of exotic species through hydrostatic testing should be identified.

**Mitigation of Wetlands, Streams/Rivers, Lakes** – The two proposed projects each have a high potential for direct and indirect impacts to wetlands and other water bodies. However, we expect that the Alberta Clipper Project will have significantly more impacts due to its longer length and location.

Mitigation plans should be provided in the NEPA documents. Due to the time it can take to adequately reclaim some disturbed wetlands, river and stream systems, we suggest that the Department of State require mitigation of disturbance during the project operating time, and that mitigation for any particular wetland, stream or riparian area begin concurrent with the disturbance, or even prior to project construction, if possible. Of particular concern to U.S. EPA is the loss of forested wetlands. Forested wetlands take many decades to recover from tree loss and are also difficult to successfully create. Consequently, the temporal loss of the functions of any forested wetland due to tree cutting or clearing associated with project construction will need to be compensated. This is in addition to the compensation for the permanent loss of forested wetlands due to ROW maintenance. Depending on the quality of the wetland lost, we recommend a 2:1 to 6:1 replacement ratio for the temporal and/or permanent loss of any forested wetland. Wetland restoration is preferred to wetland creation or enhancement because it has a higher rate of success. Wetland mitigation should first take place within the immediate watershed where the impacts occur. Mitigation requirements under 40 CFR Section 230 address the replacement of the wetland functions and values that are unavoidably lost and any additional Federal, State and local mitigation requirements should be adhered to.

The mitigation plans should include, but not be limited to:

- commitments to acquire and start mitigation work prior to project construction;
- detailed schedules of pipeline and wetland creation/restoration work;
- detailed construction plans;
- a detailed mitigation monitoring plan, including a time table;
- detailed performance criteria to measure success;
- detailed specifications and commitments for corrective measures to be taken if performance criteria are not met; and,
- commitments to the establishment of a protection and management plan in perpetuity (i.e., legal surveys of the specific boundaries with buffers and conservation easements that are

given to a land conservancy organization) for all mitigation areas.

We encourage the delineation and marking of perennial seeps and springs, and wetlands on maps and on the ground before activity begins, so construction workers will be able to identify them. We recommend establishment of wetland and riparian habitat buffer zones to avoid adverse impacts to streams, wetlands, and riparian areas. We recommend a 100-foot buffer of native vegetation be provided around each wetland mitigation site to help enhance wildlife habitat and protect the site from sediment buildup that could result from land use practices immediately outside the buffer area. If stream bank disturbances result, then we suggest stabilizing stream banks with soil bioengineering techniques. The identification of appropriate mitigation sites should take place in consultation with the federal and state resource agencies.

If mitigation cannot be performed within the same watersheds where wetland impacts occur, and mitigation banking is proposed as an option, then details on the mitigation bank(s) should be included in the NEPA documents. This information should include, but not be limited to, the location of the mitigation bank/s and the respective service area(s), description of the bank's landscape setting (geomorphology), water source/s, vegetative structure and composition, identification of the bank owner, total acreage to be purchased, types and acreage of wetlands to be purchased, cost, and an explanation of how the functions and values of the wetlands lost are replaced by the proposed mitigation.

**Air Quality** – The protection of air quality should be addressed in the NEPA documents. The types of fuels to be used during construction activities, increased traffic during operations, and related VOC and NOx emissions, should be disclosed and the relative effects on air quality and human health evaluated. This analysis should also address and disclose the projects potential affect on: all criteria pollutants under the National Ambient Air Quality Standards (NAAQS), including ozone; visibility impairment, and air quality related values (AQRV) in protection of any affected Class I Areas; any significant concentrations of hazardous air pollutants; and protection of public health. We recommend Enbridge pursue opportunities to use clean diesel equipment, vehicles and fuels in construction of the project, and that DOS identify and disclose any opportunities to utilize these measures in the NEPA documents.

There are several terminal facilities identified in the NOIs. The NEPA documents should identify the specific Midwest refineries that will receive Enbridge pipeline petroleum products. In addition, the NEPA documents should identify and address the extent to which there may be an increase in the utilization of these refineries and any potential air quality impacts this may have.

**Vegetation and Wildlife** – The effects of project activities on area ecology, including vegetation, wildlife and their habitats, as well as recreational hunting and fishing activities, should be disclosed and evaluated in the NEPA documents. A proposed mitigation plan with detailed mitigation steps that will be taken to minimize or eliminate adverse impacts should be presented. We recommend close and early coordination with the U.S. Fish and Wildlife Service (USFWS) and State agencies on these and other wildlife-related issues. This should include

coordination with USFWS and state agencies regarding any federal and state-listed threatened or endangered species.

As currently proposed, the Alberta Clipper Project would cross the Chippewa National Forest in Minnesota and may cross two Minnesota State Forests, the Mississippi Headwaters State Forest and Fond du Lac State Forest. In addition to coordinating with USFWS, we recommend DOS coordinate with the U.S. Forest Service and the Minnesota Department of Natural Resources (MnDNR) concerning impacts to resources within U.S. Forest Service lands and State Forests, respectively. This coordination and the results of that coordination should be documented and included in the NEPA documents.

We are also concerned about the loss of upland resources and habitat fragmentation associated with pipeline construction and associated facilities construction. An inventory of any high quality or locally and regionally rare habitats or plant communities, such as old growth forest, and wildlife corridors should be included in the documentation. This would also include identification of forested areas and core forest and an assessment of the potential to impact forest interior dwelling birds, including neo-tropical migrants. Loss of core forest is the main reason for the decline in neo-tropical migrant populations. A description and the aerial extent of each site should be presented in the inventory. These resources should be avoided to the extent possible. The NEPA documents should identify the mitigation compensation measures that will be undertaken for any unavoidable loss.

We recommend replacement trees be planted to offset any unavoidable tree loss. We generally recommend that native saplings be used, if practicable, at a minimum 1:1 replacement ratio near the project site. However, mitigation might also include assisting county, state, or federal agencies with any on-going or planned forest reclamation projects in the watersheds affected. We recommend that the proponents commit to voluntary forest/tree mitigation, if applicable, in the NEPA documents and provide, as detailed as possible, a conceptual forest/tree mitigation plan that compensates for the loss and fragmentation of forest habitat due to the proposal.

Equipment and materials should not be placed or stored in wetlands or environmentally sensitive upland areas. Where possible, excavation should be done from non-sensitive upland areas. If equipment must work in wetlands, then it should be placed on mats. Site preparation and construction activities should be timed to avoid disturbing plants and animals during crucial seasons in their life cycle, such as migration, mating and rearing of their young. BMPs that will be utilized for this particular project should be identified.

Noise - Construction of the pipeline and operational activities associated with pump stations may cause an increase in local noise levels. The NEPA documentation should identify and discuss the sources of noise pollution. The document should identify and provide details of the mitigation measures that will be implemented. Mitigation measures may include, but are not limited to, restricting construction to daylight hours, the use of noise barriers, placement of trees and shrubs, sound-proofing structures, and the use of pumps that emit the lowest levels of noise practicable.

**Impacts to Local Communities** - The proposed projects traverse a variety of human environments, including, low population rural farming communities and more populated communities. The NEPA documents should identify and address the social and economic impacts these projects may have on the different communities. This would include, but is not limited to, identifying the number of outside workers that would be brought into the communities to construct the projects and the duration of proposed construction activities through the various communities. The NEPA documents should also consider environmental-related socio-economic impacts to the local communities, such as housing for project workers, schools, burdening existing solid waste and wastewater handling facilities, increased road traffic with associated dust and hazardous materials spill potential, and easier human access to wildlife habitat (with associated increased disturbances). If applicable, methods to avoid or minimize such impacts should be discussed.

While assessing the reasonably foreseeable development that may follow the completion of these projects can be difficult without having access to specific development plans or requests for additional development activities in the area, it is reasonable to address what additional activities could look like based on similar ongoing projects in all states affected by these current proposals.

Such evaluation could look at the types of environmental impacts that may be associated with such development, the loading that could be placed on local communities abilities to provide necessary public services and amenities, and methods that could potentially avoid or minimize such impacts.

Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," signed in 1994, applies to federal agencies that conduct activities that substantially affect human health or the environment. In accordance with this order, the NEPA documents should disclose and evaluate any environmental justice aspects associated with impacts on rural low-income communities by either the proposed project, or the potential build-out for reasonably foreseeable development analysis. If there are no applicable environmental justice considerations, then that should be disclosed. EPA recommends close coordination with potentially impacted Native American tribes.

**National Historic Preservation Act, Section 106** - Future NEPA documents should confirm that appropriate National Historic Preservation Act (NHPA) Section 106 consultation with the North Dakota, Minnesota, and Wisconsin State Historic Preservation Offices (SHPOs) has taken place, as well as with all applicable tribes and Tribal Historic Preservation Offices (THPOs). This consultation might be documented by including copies of letters to and from the SHPOs, tribes and/or THPOs and, if applicable, signed Memoranda of Agreement.

Executive Order 13175 Section 2 describes fundamental principles of inherent sovereign powers of tribes over their territory and the principle of government-to-government relationships with the United States Government where tribal resources and rights are affected. These principles have been the cornerstones of the United States Government's Indian Policy

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5  
77 WEST JACKSON BOULEVARD  
CHICAGO, IL 60604-3590

OCT 05 2007

REPLY TO THE ATTENTION OF:

Transfer to EPA for  
DR; NO  
OBJECTION TO  
FULL RELEASE

WW-16J

Colonel Michael F. Pfennig  
District Engineer  
St. Paul District, Corps of Engineers  
Attn: CO-R  
190 Fifth Street East  
St. Paul, Minnesota 55101

Dear Colonel Pfennig:

Thank you for your August 3, 2007, Special Public Notice No. 2006-5527-LAG, for the Enbridge Energy pipelines project, traversing Canada, North Dakota and Minnesota to Superior, Wisconsin. Two of the three pipelines, the LSr and the Alberta Clipper, are subject to the Environmental Impact Statement (EIS) process under the National Environmental Policy Act (NEPA) responsibilities of the Department of State. This would be part of issuing a Presidential Permit for the border crossing between Canada and North Dakota. The third pipeline, the Southern Lights, lies within the United States, so does not require a Presidential Permit. It may share the right of way of the Alberta Clipper segment, with overlapping impacts.

We submitted our EIS scoping comments to the Department of State in a September 10, 2007, letter, enclosed. This outlines our concerns under the Clean Water Act and other areas of responsibility. Please consider it as a part of our response to this Public Notice, as well. We anticipate expansion of our comments on Clean Water Act Section 404 permits in your future 404 Public Notices and during the EIS comment periods. In the scoping letter we noted that the LSr project includes 136 miles of pipeline in the U.S., with a 100-ft. construction right of way. The Alberta Clipper would extend 326 miles in the U.S., with a 140-ft. construction right of way. Your Public Notice estimates that the LSr project will impact about 140 acres of wetlands, of which 40 acres are forested. It will be important to carefully analyze the nature of the construction impacts and the long term disposition and management of the right of way and its construction corridor. Compensatory mitigation must be provided to offset temporary and extended losses to forested wetlands systems and other aquatic resources.

We strongly endorse the use of an individual permit for these projects due to the extent of their impacts, the cumulative impacts of the proposed pipeline system, and the benefit of informing the public and receiving comments on the proposed actions. Past work done in

refining the General Permit systems in Minnesota and Wisconsin will ensure that this happens and we encourage your colleagues in the Omaha District to proceed also under an individual 404 permit. We appreciate the timeliness of this Special Public Notice in informing the public and preparing federal, tribal and state agencies to begin to work together on the issues.

Throughout consideration of the Alberta Clipper project, two Indian tribes, Leech Lake and Fond du Lac, may encounter alternatives which impact their reservation land holdings and water quality. Full coordination with the Tribes, in addition to the States of Minnesota, Wisconsin and North Dakota, is essential.

The Public Notice states that the Corps will use the analyses conducted by the Department of State and the Minnesota Department of Commerce as part of your review requirements. It is not clear from this Public Notice if a concurrent NEPA-404 process is contemplated for the State Department EIS. If so, the process needs to be discussed now, to prepare for such an extensive project. We would welcome participating in these discussions. With or without a concurrent process, it will be important to clarify which of each of the three projects is producing which set of environmental impacts in the environmental studies and documents. Three pipelines will require careful attention to nomenclature and descriptions throughout the documents.

A major concern of Region 5 is whether the pipelines and their various alternatives will assume, require, pre-determine or preclude the need and location of additional facilities. This would include storage, processing, refinery and pipeline projects along the pipelines' paths or endpoints. The Superior, Wisconsin, area is a hub for various petroleum facilities. We are seeing multiple projects proliferating in this area. For example, Enbridge is also showing interest in applying for 404 permits for many more storage tanks at Superior. These additional projects may come from Enbridge or from other applicants. They likely will impact additional areas of wetlands and streams and all contribute more to the cumulative effects of the petroleum facilities. Consideration of a full range of location alternatives for the additional facilities is important to avoid or reduce their environmental impacts. In-depth attention must be given to the cumulative impacts of petroleum infrastructure and processing facilities in the Upper Midwest.

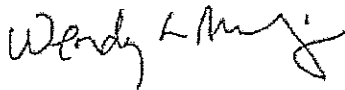
As always, EPA has concerns, from our full scope of Clean Water Act responsibilities, that permitted actions do not cause or contribute to further impairment of waters. State 303(d) lists should be consulted for project area waters and associated wetlands impaired for such reasons as sediment, nutrients, habitat loss and other factors that could be aggravated by construction impacts or permanent fill. Both construction methods and the location of compensatory mitigation should be chosen to minimize the decline and contribute to the improvement of water quality in these watersheds.

The proposed impact of these pipeline projects, individually and cumulatively, will be extensive and will require careful work and analysis. It is likely that EPA will object to issuing these three pipeline project 404 permits until all issues are resolved. As we know from the Advance Identification (ADID) studies, many of the larger tracts of land in the

City of Superior contain high quality wetlands, including areas near existing refinery and storage facilities. Alternatives away from these locations must be assessed for future projects and must not be entirely precluded by projects permitted before them.

We look forward to working with your District on the technical aspects of this project. Our contact for the 404 aspects of this project will be Cathy Garra, at 312/886-0241. Virginia Laszewski is our NEPA contact, at 312/886-7501.

Sincerely yours,



Wendy L. Melgin, Acting Chief  
Watersheds and Wetlands Branch

Enclosure

cc: Tamara Cameron, St. Paul District  
Leo Grabowski, St. Paul District  
Karen Lawrence, Omaha District  
Nancy Schuldt, Fond du Lac  
Shirley Nordrum, Leech Lake  
Tony Sullins, USFWS, Bloomington  
Louise Clemency, USFWS, Green Bay  
Elizabeth Orlando, US Department of State  
Kevin Molloy, MPCA  
Tom Mings, MBWSR  
Doug Norris, MDNR  
Cherie Wieloch, WDNR, Madison  
Steve Lavalley, WDNR, Superior





## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5

77 WEST JACKSON BOULEVARD  
CHICAGO, IL 60604-3590Transferred to EPA for Direct  
Reply

JUL 02 2009

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RELEASE

REPLY TO THE ATTENTION OF:

E-19J

Ms. Elizabeth Orlando  
OES/ENV Room 2657  
U.S. Department of State  
Washington, DC 20520

Re: Final Environmental Impact Statement for the Alberta Clipper Pipeline Project, North  
Dakota, Minnesota, Wisconsin [CEQ# 20090180]

Dear Ms. Orlando:

In accordance with our responsibilities under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act, the United States Environmental Protection Agency (EPA) has reviewed the Department of State's (DOS) Final Environmental Impact Statement (FEIS) for the Alberta Clipper Pipeline Project. Our review of this FEIS has focused on the response to our comments on the Draft Environmental Impact Statement (DEIS) as documented in our January 30, 2009, letter.

The proposed project by Enbridge Energy, Limited Partnership (Enbridge) is to construct and operate an underground crude oil pipeline from Hardisty, Alberta, Canada to Superior, Wisconsin. The FEIS focuses only on that portion of the project within the borders of the United States. The Proposed Action would result in the placement of approximately 326.9 miles of new 36-inch-diameter pipe, installation of 32 mainline valves and upgrades at three existing pumping stations from the U.S.-Canada border near Neeche, North Dakota, crossing Minnesota to the Clearbrook Terminal and continuing on to Enbridge's existing terminal in Superior, Wisconsin. In addition, approximately 183 miles of 20-inch-diameter pipeline (Southern Lights Diluent Pipeline) between the Clearbrook and Superior Terminals would be installed during the same construction season and substantially next to the Alberta Clipper Pipeline. Enbridge also proposes to expand its existing Superior, Wisconsin terminal (the Superior Terminal Expansion Project) by constructing 5 new tanks and installing a new pump station and associated equipment to accommodate the crude oil delivered by the Alberta Clipper Pipeline.

EPA, in our role as a cooperating agency, provided DOS with input on defining the purpose and need, determining the range of alternatives, identifying connected actions, and scoping the environmental analysis to be documented in the DEIS. We provided comments on the DEIS in a letter dated January 30, 2009. We rated the DEIS as "EC-2" (Environmental Concerns - Insufficient Information). We expressed concerns regarding impacts to water resources (including

wetlands), agricultural land, and forests. We recommended the FEIS include additional information regarding resource impacts, alternatives and mitigation. We also advised on the St. Regis Paper Company Superfund Site and our responsibilities under the Clean Water Act (CWA). In our overall review of the FEIS, we found that the majority of our concerns on the DEIS have been addressed by DOS or will be further addressed during the permitting phase of the pipeline project.

We appreciate that the FEIS includes Environmental Mitigation Plans for each of the three states and an Agricultural Mitigation Plan. EPA is also pleased that the project proponent will encourage construction contractors to utilize strategies to reduce diesel emissions. We continue to encourage Enbridge to consider implementing voluntary upland forest mitigation. This suggested mitigation would be in addition to Enbridge's commitment to enhance existing riparian forest in Minnesota by planting woody species between the newly installed and existing Enbridge pipelines to the nearby tree line or up to 50 feet from the ordinary high water mark.

We commend Enbridge for working with the Wisconsin Department of Natural Resources (WDNR) and the Fond du Lac Tribe (FDL) since issuance of the DEIS to identify and analyze additional route alternatives and route variations. This has led to the identification of an FEIS preferred alternative that includes a route through the Fond du Lac Reservation that follows the existing right of way with reduced impacts to less disturbed areas, including wetlands. In addition, the FEIS preferred alternative route now includes a new Nemadji Golf Course route in Wisconsin, which avoids known high quality wetlands areas. However, we note that while the total acres of impacted wetlands is reduced from the DEIS, a greater number of acres will be undergoing permanent conversion from shrub or wooded wetlands to herbaceous wetlands, an estimated increase of 120 acres, up to a total of 820 acres. This will entail the need for additional acres of compensatory mitigation in the Clean Water Act (CWA) Section 404 permitting process. The number of stream crossings has also increased, from 151 to 203 water body crossings. It will be important to make full use of the local expertise of state and tribal agencies. We advise Enbridge to continue to share information and work with the state, federal and tribal agencies to identify and implement further measures to reduce and compensate for impacts to resources of concern.

Consistent with our previous comments regarding impacts, mitigation and permitting responsibilities, we offer some additional comments that we believe should be addressed by the DOS in the Record of Decision (ROD).

The U.S. Army Corps of Engineers' (Corps) Public Notice review period for the proposed CWA Section 404 and Rivers and Harbors Act Section 10 permits for this project is running concurrently with the FEIS review period. We understand that the FEIS does not reflect some of the currently proposed approaches to refined project construction in Wisconsin, including horizontal directional drilling (HDD) for crossing portions of the Pokegama River and Pokegama-Carnegie wetland complex. We recommend the Record of Decision (ROD) identify these refined project construction approaches. EPA will be making additional detailed programmatic and technical concerns known through the CWA Section 404 process. This

includes our responsibility for evaluating CWA Section 401 water quality certification for proposed impacts to wetlands and waters of the United States within and adjacent to the Leech Lake Indian Reservation. We recommend the ROD clarify that EPA does not give 401 certification for the Chippewa National Forest, as identified in Appendix M, Table 1. In addition, we recommend the ROD acknowledge that Appendix M, Table 1 should have mentioned the Fond du Lac Tribe's role in the Section 401 water quality certification process within the exterior boundaries of the Tribe's reservation.

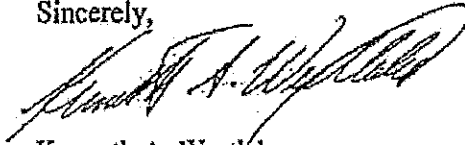
EPA will also be making our National Pollutant Discharge Elimination System (NPDES) CWA 402 permit decisions, as necessary, for discharge of hydrostatic test waters for the Leech Lake Reservation. At this time, there are no hydrostatic test water discharges proposed for the Fond du Lac Reservation. If it is determined in the future that a discharge would be needed for the Fond du Lac Reservation, then Enbridge would have to apply to EPA for a Section 402 NPDES permit. We recommend this information be identified in ROD.

While the FEIS identifies that the proposed pipeline location may be out of the contaminated soil area associated with the St. Regis Paper Company Superfund Site (Site), it may well be within the Site's groundwater plume. EPA staff have been working with the Enbridge's contractors, Natural Resources Group, on work plans for an investigation of that portion of the pipeline that will probably encounter the northern portion of the groundwater contaminant plume of the Site. At this time, EPA has not received a final work plan for the plume investigation. Our concerns are with worker safety during excavation and with the potential for the pipeline trench to act as a conduit for contaminant groundwater flow eastward to nearby Cass Lake. Cass Lake is the source of wild rice and fish for the local Leech Lake Reservation tribal population as well as one of the most popular recreational fishing lakes in Minnesota. We recommend the DOS adequately address these concerns in the ROD.

In our DEIS comments, EPA recommended that the FEIS include one overarching Impacts/Mitigation Summary Table (Table) that identifies and quantifies (where feasible) all impacts associated with the proposal and details the mitigation that has and will be undertaken to avoid, minimize and compensate for those impacts identified throughout the document. We advised that the Table be included in the Executive Summary Chapter and Chapter 5 (Conclusions and Mitigation) of the FEIS. We made this recommendation with the intent that the Table would serve to assist the reader in keeping track of the proposals' impacts and proposed mitigation while reading the NEPA document. We did not intend that the Table be a substitute for the detailed analysis and write-up in the FEIS. We believe this type of reference table is a valuable tool in that it provides the lead agency, the resource agencies, and the public with an aid that allows them to more easily keep track of a proposal's impacts and proposed mitigation while reading through the EIS. This is particularly important when there is very limited time to review the volumes of information that accompany pipeline FEISs.

If you have any questions regarding our comments, please contact Virginia Laszewski, lead reviewer to this project, at (312) 886-7501 or at [laszewski.virginia@epa.gov](mailto:laszewski.virginia@epa.gov). We request copies of DOS' Record of Decision (ROD), as soon as it is available.

Sincerely,



Kenneth A. Westlake  
Supervisor  
NEPA Implementation  
Office of Enforcement and Compliance Assurance

cc: Larry Svoboda /Melanie Wasco, EPA, Region 8, Denver, CO  
Tamara Cameron, U.S. Army Corps of Engineers, St. Paul District, MN  
Nick Rowse, Project Biologist, Green Bay Ecological Services Field Office, U.S. Fish and Wildlife Service, MN  
Joel Trick, Project Biologist, Green Bay Ecological Services Field Office, U.S. Fish and Wildlife Service, WI  
Robert Harper, Forest Supervisor, U.S. Forest Service – Chippewa National Forest, MN  
Karen Diver, Chairperson, Fond du Lac Reservation  
Arthur LaRose, Chairman, Leech Lake Band of Ojibwe  
Wayne Dupris, Environmental Manager, Fond du Lac Reservation  
Bruce Johnson, Division Director, Division of Resources Management, Leech Lake Reservation  
Levi Brown, Environmental Manager, Division of Resources Management, Leech Lake Reservation  
Cheryl Laatsch, Office of Energy, Wisconsin Department of Natural Resources, Madison, WI  
Steven Colvin, Supervisor, Environmental Review Section, Minnesota Department of Natural Resources, MN



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

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REPLY

JUL 1 2010

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OFFICE OF  
ENFORCEMENT AND  
COMPLIANCE ASSURANCE

Mr. Matthew T. McManus  
Office of International Energy and Commodity Policy  
Room 4843  
Department of State  
Washington, D.C. 20520

Dear Mr. McManus:

I am writing to request confirmation of the status of the 90-day interagency review process under Executive Order 13337 regarding the Presidential permit application from TransCanada Keystone Pipeline, L.P.

EPA understands that the Department of Energy (DOE) has requested from the Department of State additional information necessary for DOE to provide their views under the Executive Order. I also understand that the information requested by DOE was the Final Environmental Impact Statement (FEIS) for the project.

EPA believes, consistent with the plain language of the Executive Order, that DOE's request for the FEIS means that "the time elapsed between the date of [DOE's] request for additional information and the date such additional information is received shall not be counted in calculating the [90-day] time period" for interagency review.

Please confirm at your earliest convenience EPA's understanding that the 90-day review period has been tolled for DOE and the other relevant agencies, including EPA. Please also provide the date of DOE's request for additional information, so that EPA may calculate the date by which EPA must provide its views to the State Department on the Keystone XL application.

Thank you for your assistance, and we look forward to further consultation with you on the Keystone XL application.

Sincerely,

A handwritten signature in cursive script, reading "Susan E. Bromm", is written over the typed name.

Susan E. Bromm  
Director  
Office of Federal Activities

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L125

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

JUL 16 2010

Mr. Jose W. Fernandez  
Assistant Secretary  
Economic, Energy, and Business Affairs  
U.S. Department of State  
Washington, DC 20520

ASSISTANT ADMINISTRATOR  
FOR ENFORCEMENT AND  
COMPLIANCE ASSURANCE

Ms. Kerri-Ann Jones  
Assistant Secretary  
Oceans and International Environmental and Scientific Affairs  
U.S. Department of State  
Washington, DC 20520

Dear Mr. Fernandez and Ms. Jones:

The Environmental Protection Agency (EPA) has reviewed the Draft Environmental Impact Statement (Draft EIS) for the Keystone XL project pursuant to our authorities under the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) NEPA regulations (40 CFR Parts 1500-1508), and Section 309 of the Clean Air Act.

We appreciate the substantial efforts by the State Department to solicit broad expert and public input to analyze the potential environmental impacts of the Keystone XL project, and believe the Draft EIS provides useful information and analysis. However, we think that the Draft EIS does not provide the scope or detail of analysis necessary to fully inform decision makers and the public, and recommend that additional information and analysis be provided. The topics on which we believe additional information and analysis are necessary include the purpose and need for the project, potential greenhouse gas (GHG) emissions associated with the project, air pollutant emissions at the receiving refineries, pipeline safety/spill response, potential impacts to environmental justice communities, wetlands and migratory birds.

Project Purpose and Need/Alternatives

We are concerned that the Draft EIS uses an unduly narrow purpose and need statement, which leads to consideration of a narrow range of alternatives. The Draft EIS considers issuance of a cross-border permit for the proposed project and to a limited extent, the no-action alternative (i.e., denying the permit). By using a narrow purpose and need statement, the Draft EIS rejects other potential alternatives as not meeting the stated project purpose. While we recognize that an objective of the applicant's proposal is to construct a pipeline to transport oil sands from Canada to Gulf Coast refineries in the United States, we believe the purpose and need to which the State



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Department is responding is broader. Accordingly, EPA recommends that the State Department frame the purpose and need statement more broadly to allow for a robust analysis of options for meeting national energy and climate policy objectives.

In evaluating the need for the project and its alternatives, we also recommend that the discussion include consideration of different oil demand scenarios over the fifty-year project life. This would help ensure that the need for the project is clearly demonstrated. The Draft EIS uses one demand scenario that indicates that with permit denial, the demand for crude oil would continue at a rate such that U.S. refineries "would continue to acquire crude oil primarily from sources other than Canada to fulfill this demand and/or find alternative methods of delivery of Canadian oil sands." We recommend that this discussion be expanded to include consideration of proposed and potential future changes to fuel economy standards and the potential for more widespread use of fuel-efficient technologies, advanced biofuels and electric vehicles as well as how they may affect demand for crude oil.

In addition, we are concerned that the Draft EIS does not fully analyze the environmental impacts of the no-action and other alternatives, making a comparison between alternatives and the proposed project more difficult. EPA believes it is important to ensure that the differences in the environmental impacts of non-Canadian crude oil sources and oil sands crude be discussed. Alongside the national security benefits of importing crude oil from a stable trading partner, we believe the national security implications of expanding the Nation's long-term commitment to a relatively high carbon source of oil should also be considered.

#### GHG Emissions

The Draft EIS estimates GHG emissions associated with construction and operation of the pipeline itself and the refining process, although not the GHG emissions associated with upstream oil sands extraction intended for this pipeline or downstream end use. In order to fully disclose the reasonably foreseeable environmental impacts on the U.S. of the Keystone XL project, we recommend that the discussion of GHG emissions be expanded to include, in particular, an estimate of the extraction-related GHG emissions associated with long-term importation of large quantities of oil sands crude from a dedicated source. This would be consistent with the approach contemplated by CEQ's recent Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions (February 18, 2010).

Extraction and refining of Canadian oil sands crude are GHG-intensive relative to other types of crude oil. Our calculations indicate that on an annual basis, and assuming the maximum volume of 900,000 barrels per day (bpd) of pipeline capacity, annual well-to-tank emissions from the project would be 27 million metric tons carbon dioxide equivalent (MMTCO<sub>2</sub>e) greater than emissions from U.S. "average" crude.<sup>1</sup> Accordingly, we estimate that GHG emissions from Canadian oil sands crude would be approximately 82% greater than the average crude refined in the U.S., on a well-to-tank basis. To provide some perspective on the potential scale of

<sup>1</sup> 900,000 bpd \* (181 kgCO<sub>2</sub>e/bbl - 99 kgCO<sub>2</sub>e/bbl) \* 365 = 27 MMTCO<sub>2</sub>e/yr. Based on average 2005 crude oil lifecycle GHG emissions estimates in EPA's Renewable Fuel Standard (RFS2) final rule (75 FR 14669); also see DOE/NETL, 2009, Petroleum-Based Fuels Life Cycle Greenhouse Gas Analysis - 2005 Baseline Model.



emissions, 27 million metric tons is roughly equivalent to annual CO<sub>2</sub> emissions of seven coal-fired power plants.<sup>2</sup>

Based on our review, there is a reasonably close causal relationship between issuing a cross-border permit for the Keystone XL project and increased extraction of oil sands crude in Canada intended to supply that pipeline. Not only will this pipeline transport large volumes of oil sands crude for at least fifty years from a known, dedicated source in Canada to refineries in the Gulf Coast, there are no significant current export markets for this crude oil other than the U.S. Accordingly, it is reasonable to conclude that extraction will likely increase if the pipeline is constructed. While we recognize that other pipeline projects are currently being planned that might bring additional pipeline capacity for oil transport should the Keystone XL project not be constructed, these other proposed pipelines appear to still be in the planning stages, and whether and when they will be approved or constructed appears uncertain. We also note that the Draft EIS discusses end use GHG emissions from combustion of refined oil, indicating they would not differ from those of conventional crude. Because they are easily calculated and are of interest to the public in obtaining a complete picture of the GHG emissions associated with the proposed project, it might be helpful to provide a quantitative estimate of these emissions.

In addition, we recommend that the State Department expand the discussion of alternatives or other means to mitigate the emissions. The analysis in the Draft EIS focuses primarily on carbon sequestration benefits that might accrue from re-vegetation measures proposed as mitigation for wetland losses associated with the pipeline. We believe there are a number of other mitigation opportunities to explore, including control of fugitive emissions, pumping station energy efficiency, and use of renewable power, where appropriate. In addition, we recommend that the State Department consider project alternatives that could significantly reduce extraction-related GHG emissions. For example, these alternatives could include a smaller-capacity pipeline or deferring the project until current efforts to reduce extraction-related GHG emissions through carbon capture and storage, improved energy efficiency, or new extraction technologies are able to lower GHG emissions to levels closer to those of conventional crude.

#### Air Quality Impacts - Refinery Emissions

We appreciate the efforts to predict pollutant emissions from refineries processing crude oil from the proposed project, and recognize that it is likely that some of the oil sands crude from the project would replace declining feedstock at existing refineries, and that some of the oil sands crude would supply newly upgraded or expanded facilities. We also agree with the Draft EIS's conclusion that there may be increases in air emissions from refineries in the area, and we recommend that additional information and analyses be presented to substantiate the conclusion that these increases "would not likely be major (Draft EIS, pp. 3.14-36)." Further, we recommend that additional information be provided concerning potential impacts from emissions associated with events such as start up, shut down, and malfunctions, which are not addressed by existing permits and which may have substantial adverse impacts.

<sup>2</sup> See, <http://www.epa.gov/cleanenergy/energy-resources/calculator.html> (translating 27 MMTCO<sub>2</sub>e to annual coal plant CO<sub>2</sub> emissions).

### Pipeline Safety/Spill Response

We believe that additional efforts to evaluate potential adverse impacts to surface and ground waters from pipeline leaks or spills, including potential adverse impacts to public water supplies and source water protection/wellhead protection areas, are necessary.

First, we note that in order for the bitumen to be transported by the pipeline, it will be either "diluted with cutter stock (the specific composition of which is proprietary information to each shipper) or an upgrading technology is applied to convert the bitumen to synthetic crude oil." (Draft EIS, pp. 3.13-18). Without more information on the chemical characteristics of the diluent or the synthetic crude, it is difficult to determine the fate and transport of any spilled oil in the aquatic environment. For example, the chemical nature of the diluent may have significant implications for response as it may negatively impact the efficacy of traditional floating oil spill response equipment or response strategies. In addition, the Draft EIS addresses oil in general and as explained earlier, it may not be appropriate to assume this bitumen oil/synthetic crude shares the same characteristics as other oils. This is especially of concern in light of the Draft EIS's statement that "Some characteristics could not be described or distilled from assay data for the example oils for this EIS, including viscosity profiles, proportion of volatile and semi-volatiles compounds, the amount or proportion of PAHs, and toxicity to aquatic organisms based on bioassays." (Draft EIS, pp. 3.13-19)

We recommend that a more complete chemical/physical profile of the oil and details describing the processing activities be provided in order to accurately predict the potential impacts to aquatic environment from a spill event. We are also concerned that while the Draft EIS discusses the impacts of oil in general on dissolved oxygen in waters in the event of a spill, it does not emphasize the primary effect of an oil spill, i.e., acute toxicity to the aquatic environment or address the chronic impacts of the undefined polynuclear aromatic hydrocarbons (PAH). We recommend further information be provided regarding both acute and chronic impacts.

We are concerned that the Draft EIS only uses what the Department of Transportation's Office of Pipeline Safety (OPS) considers a "serious or significant" spill to assess risks, and did not estimate the number of spills that may have caused harm to the waters of the U.S. under the Oil Pollution Act. EPA recommends also using historical data regarding oil spills that caused harm using EPA's regulations (40 CFR 110) and that were required to be reported to the National Response Center. The risk assessment should also address spills from pipeline-related pump stations, breakout tanks and construction activities. In order to better assess the risks of spills, we also recommend that additional information be provided concerning the frequency of pipeline inspections and the methods for inspection by the OPS and Keystone.

We recommend that additional information be provided to describe the means by which small pipeline leaks would be detected (including those leaks that will not be detected by the proposed Supervisory and Control Data Acquisition System) and the time frames over which a small leak may occur prior to detection and control, as well as the potential volume of oil that would be released before shut-off could occur. We also recommend that information be

provided to describe what methods would be employed to patrol the pipeline in search of a possible leak, especially at times of severe weather.

We are concerned that the Draft EIS only provides a summary of the procedures likely to be included in yet to be developed Emergency Response Plan, and does not provide information about potential Facility Response Plans. We recommend that detailed information regarding these plans, including draft versions of the plans, be provided. More specifically, we also recommend that the draft plans (including the draft Spill Prevention Control and Countermeasure (SPCC) plans, include strategies for responding to bitumen that is mixed with a diluent, which may affect its behavior in water, as described above.

We recommend that more information be provided on proposed measures to reduce the risk of spills in "high consequence areas (HCA)" (49 CFR 195.450) (i.e., populated areas, designated zones around public drinking water intakes, and unusually sensitive ecologically resource areas). In particular, we recommend that the State Department and OPS work with Keystone to ensure that the Integrity Management Plans for these HCAs would be completed before the pipeline would begin operation.

In order to further reduce the risks of damage to water resources, we recommend including an analysis of the feasibility of increasing the number of mainline valves, which can shut down the pipeline in the event of an emergency, particularly where the pipeline would cross perennial streams or drinking water source aquifers.

We also recommend that a description be provided of Keystone's financial assurances for potential liability in the event of a spill, including potential bond amounts that would be necessary to protect both human health and the environment.

In addition, we recommend that the State Department more clearly outline the issues associated with the request for a special permit from OPS to operate portions of the pipeline at a greater pressure than allowed under current regulations. We recommend that the sulfur content of the oil sands crude be specifically considered in making the decisions on the pipeline wall thickness. Finally, we recommend that the State Department and the OPS work together to develop one NEPA analysis for all of the permits required for the project, including OPS's special permit.

#### Environmental Justice

We are concerned that the Draft EIS does not fully identify and address the potential for disproportionately high and adverse human health and environmental effects on minority, low-income and Tribal populations. Foremost, we believe the methodology for defining minority, low-income and Tribal populations may have underestimated the extent of these vulnerable populations in the project area. When examining the presence of minority and low-income populations that are potentially affected by the proposed project, the Draft EIS compared the percentage of minority and low-income residents in the counties along the proposed pipeline route with State-level percentages. First, we suggest that in addition to using county-level data, census tract data be used to determine the presence of minority, low income and Tribal

populations in the project area that may be potentially impacted. Second, we recommend comparing this community level data to national U.S. population data in order to ensure that the minority and low-income populations are properly identified. EPA believes that this approach will ensure that the presence of minority and low-income populations are not artificially "diluted" (as discussed in EPA Guidance for Consideration of Environmental Justice in Clear Air Act Section 309 Reviews (1999): pp. 12-13) and that the characteristics of the potentially affected communities are identified in order to evaluate potential impacts from the proposed action. We also note that the Draft EIS does not evaluate the environmental justice issues associated with potential impacts to communities in Port Arthur, Texas, where numerous industrial facilities, including chemical plants and a hazardous waste incinerator, are contributing to the residents' overall exposure to contaminants.

In addition, we believe that the potential human health impacts associated with both air emissions from refineries and the potential contamination of drinking water supplies from an oil spill have not been fully evaluated. We recommend that the State Department prepare a health risk assessment to specifically address these issues as they relate to low income, minority and Tribal populations.

#### Wetlands

The Draft EIS identifies 746 acres of aquatic resources that would be affected by pipeline construction and operations, but does not identify impacts associated with ancillary facilities and connected actions, including staging areas, work camps and storage locations. We recommend that additional information be developed to ensure that a complete estimate of potential impacts is provided. In addition, we recommend that the potential impacts of converting forested and scrub-shrub wetlands to herbaceous wetlands be evaluated, as well as appropriate mitigation measures to address these impacts. In general, the EIS should identify how wetland impacts would be avoided and minimized, to the maximum extent practicable, and how unavoidable wetland impacts would be compensated for through wetland restoration, creation, or enhancement.

#### Migratory Birds

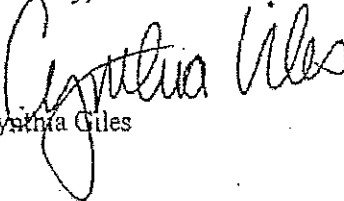
EPA also recommends that the State Department assess the potential impacts to migratory bird populations in the U.S. from oil sands extraction activities associated with the proposed project. An estimated 30% of North America's landbirds breed in the boreal forests of Canada and Alaska (Saving Our Shared Birds: Partners in Flight Tri-National Vision for Landbird Conservation. Cornell Lab of Ornithology: Ithaca, NY: 2010). As recognized by this recently released study, sponsored in part by the U.S. Fish and Wildlife Service, effects on bird populations in the boreal forest can be felt throughout the birds' migratory range, including wintering grounds in the United States. While we appreciate that the Keystone has agreed to develop a "Migratory Bird Mitigation Plan" in consultation with U.S. Fish and Wildlife Service, it appears that this plan would only address potential impacts from construction activities in the U.S.

Conclusion

The additional information and improved analyses specified above are necessary to ensure the information in the EIS is adequate to fully inform decision makers and the public about the potential environmental consequences of the Keystone XL project. Given these concerns, we have rated the Draft EIS as *Category 3-Inadequate Information*. As with all projects that have not addressed potentially significant impacts, this proposal is a potential candidate for referral to CEQ. We recommend that the additional information and analysis be circulated for full public review in a revised Draft EIS. Additional detailed comments are also enclosed, as well as a "Summary of Rating Definitions and Follow-up Actions."

Thank you for the opportunity to comment on the Keystone XL Draft EIS. As a cooperating agency, EPA looks forward to continuing to work with the State Department as it revises the Draft EIS to respond to the comments received. Please feel free to contact me at (202) 564-2440, or have your staff contact Susan Bromm, Director, Office of Federal Activities, (202) 564-5400, if you have any questions or would like to discuss our comments.

Sincerely,

  
Cynthia Giles

Enclosures

cc: Stephen D. Mull, Executive Secretary, U.S. Department of State  
Michelle DePass, Assistant Administrator, Office of International and Tribal Affairs, EPA

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

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JUN 06 2011

ASSISTANT ADMINISTRATOR  
FOR ENFORCEMENT AND  
COMPLIANCE ASSURANCE

Mr. Jose W. Fernandez  
Assistant Secretary  
Economic, Energy and Business Affairs  
U.S. Department of State  
Washington, DC 20520

Dr. Kerri-Ann Jones  
Assistant Secretary  
Oceans and International Environmental and Scientific Affairs  
U.S. Department of State  
Washington, DC 20520

Dear Mr. Fernandez and Dr. Jones:

In accordance with our authorities under the National Environmental Policy Act (NEPA), the Council on Environmental Quality (CEQ) NEPA regulations, and Section 309 of the Clean Air Act, EPA has reviewed the Supplemental Draft Environmental Impact Statement (SDEIS) for TransCanada's proposed Keystone XL Project ("Project").

EPA reviewed the Draft Environmental Impact Statement (DEIS) for this project and submitted comments in July of 2010. At that time EPA rated the DEIS as "Inadequate-3" because potentially significant impacts were not evaluated and additional information and analyses were necessary to ensure that the EIS fully informed decision makers and the public about potential consequences of the Keystone XL Project. Since that time, the State Department has worked diligently to develop additional information and analysis in response to EPA's comments and the large number of other comments received on the DEIS. The State Department also made a very constructive decision to seek further public review and comment through publication of the SDEIS, to help the public and decision makers carefully weigh the environmental costs and benefits of transporting oil sands crude from Canada to delivery points in Oklahoma and Texas. The consideration of the environmental impacts associated with constructing and operating this proposed pipeline is especially important given that current excess pipeline capacity for transporting oil sands crude to the United States will likely persist until after 2020, as noted in the SDEIS.

While the SDEIS has made progress in responding to EPA's comments on the DEIS and providing information necessary for making an informed decision, EPA believes additional analysis is necessary to fully respond to our earlier comments and to ensure a full evaluation of

the potential impacts of proposed Project, and to identify potential means to mitigate those impacts. As EPA and the State Department have discussed many times, EPA recommends that the State Department improve the analysis of oil spill risks and alternative pipeline routes, provide additional analysis of potential impacts to communities along the pipeline route and adjacent to refineries and the associated environmental justice concerns, together with ways to mitigate those impacts, improve the discussion of lifecycle greenhouse gas emissions (GHGs) associated with oil sands crude, and improve the analysis of potential impacts to wetlands and migratory bird populations. We are encouraged by the State Department's agreement to include some of these additional analyses in the Final Environmental Impact Statement (Final EIS). We have noted those agreements in this letter, and look forward to working with you to develop these analyses for the Final EIS.

#### Pipeline Safety/Oil Spill Risks

EPA is the lead federal response agency for responding to oil spills occurring in and around inland waters. As part of that responsibility, we have considerable experience working to prevent and respond to oil spills. Pipeline oil spills are a very real concern, as we saw during the two pipeline spills in Michigan and Illinois last summer. Just in the last month, the Keystone Pipeline experienced two leaks (in North Dakota and Kansas), one of which was brought to the company's attention by a local citizen. These leaks resulted in shut-downs and issuance of an order to TransCanada from the Pipeline and Hazardous Materials Safety Administration (PHMSA), requiring that corrective measures be taken prior to the subsequently approved restart of operations. PHMSA's Order of June 3, 2011 for the Keystone Pipeline – which also carries Canadian oil sands crude oil and is operated by the same company as the proposed Keystone XL Project – was based on the hazardous nature of the product that the pipeline transports and the potential that the conditions causing the failures that led to the recent spills were present elsewhere on the pipeline. These events, which occurred after EPA's comment letter on the DEIS, underscore the comments about the need to carefully consider both the route of the proposed Keystone XL Pipeline and appropriate measures to prevent and detect a spill.

We have several recommendations for additional analyses that relate to the potential for oil spills, as well as the potential impacts and implications for response activities in the event of a pipeline leak or rupture. We recommend and appreciate your agreement that the Final EIS use data from the National Response Center, which reports a more comprehensive set of historical spill events than the Pipeline and Hazardous Material Safety Administration's incident database, to assess the risk of a spill from the proposed pipeline. With respect to the spill detection systems proposed by the applicant, we remain concerned that relying solely on pressure drops and aerial surveys to detect leaks may result in smaller leaks going undetected for some time, resulting in potentially large spill volumes. In light of those concerns, we also appreciate your agreement that the Final EIS consider additional measures to reduce the risks of undetected leaks. For example, requiring ground-level inspections of valves and other parts of the system several times per year, in addition to aerial patrols, could improve the ability to detect leaks or spills and minimize any damage.

The SDEIS indicates that there may be a "minor" increase in the number of mainline valves installed to isolate pipeline segments and limit impacts of a spill, compared to what was



originally reported in the DEIS (SDEIS, pg. 2-4). However, no detailed information or decision criteria are provided with regard to the number of valves, or their location. In order to evaluate potential measures to mitigate accidental releases, we appreciate your agreement to provide additional information in the Final EIS on the number and location of the valves that will be installed and to evaluate the feasibility of increasing the number of valves in more vulnerable areas. For example, it may be appropriate to increase the number of valves where the water table is shallow, or where an aquifer is overlain by highly permeable soils, such as the Ogallala aquifer. We also recommend consideration of external pipe leak detection systems in these areas to improve the ability to detect pinhole (and greater) leaks that could be substantial, yet below the sensitivity of the currently proposed leak detection systems. In addition, while we understand that valves are not proposed to be located at water crossings that are less than 100 feet wide, we recommend that the Final EIS nevertheless consider the potential benefits of installing valves at water crossings less than 100 feet wide where there are sensitive aquatic resources.

Predicting the fate and transport of spilled oil is also important to establish potential impacts and develop response strategies. While the SDEIS provides additional information about the different classes of crude oils that may be transported, we recommend the Final EIS evaluate each class of crude that will be transported, how it will behave in the environment, and qualitatively discuss the potential issues associated with responding to a spill given different types of crude oils and diluents used.

With regard to the chemical nature of the diluents that are added to reduce the viscosity of bitumen, the SDEIS states "the exact composition may vary between shippers and is considered proprietary information" (SDEIS, pg. 3-104). We believe an analysis of potential diluents is important to establish the potential health and environmental impacts of a spilled oil, and responder/worker safety, and to develop response strategies. In the recent bridge oil spill in Michigan, for example, benzene was a component of the diluent used to reduce the viscosity of the oil sands crude so that it could be transported through a pipeline. Benzene is a volatile organic compound, and following the spill in Michigan, high benzene levels in the air prompted the issuance of voluntary evacuation notices to residents in the area by the local county health department. Similarly, although the SDEIS provides additional information on the potential impact of spills on groundwater, we recommend that the Final EIS improve the risk assessment by including specific information on the groundwater recharge areas along the pipeline route, recognizing that these areas are more susceptible to groundwater contamination from oil spills.

We appreciate that the SDEIS provides additional information about the feasibility of alternative pipeline routes that would reduce the risk of adverse impacts to the Ogallala aquifer, by re-routing the pipeline so it does not cross the aquifer. Many commenters, including EPA, expressed concerns over the potential impacts to this important resource during the review of the DEIS. If a spill did occur, the potential for oil to reach groundwater in these areas is relatively high given shallow water table depths and the high permeability of the soils overlying the aquifer. In addition, we are concerned that crude oil can remain in the subsurface for decades, despite efforts to remove the oil and natural microbial remediation.

However, the SDEIS concludes that the alternative routes that avoid the Ogallala aquifer are not reasonable, and consequently does not provide a detailed evaluation of the environmental impacts of routes other than the applicant's proposed route. The SDEIS indicates that no other alternatives are considered in detail because, in part, they do not offer an overall environmental advantage compared to other routes. In support of this conclusion the SDEIS presents a limited analysis of the potential environmental impacts of the alternative routes and offers qualitative judgments about the relative severity of impacts to different resources, e.g., considering potential impacts from spills to the Ogallala aquifer less important than impacts to surface waters from a spill associated with an additional crossing of the Missouri River. We think this limited analysis does not fully meet the objectives of NEPA and CEQ's NEPA regulations, which provide that agencies rigorously explore and objectively evaluate reasonable alternatives. CEQ guidance states that reasonable alternatives include those that are practical or feasible from the technical and economic standpoint and using common sense.<sup>1</sup> Recognizing the regional significance of these groundwater resources, we recommend that the State Department re-evaluate the feasibility of these alternative routes and more clearly outline the environmental, technical and economic reasons for not considering other alternative routes in more detail as part of the NEPA analysis.

#### Oil Spill Impacts on Affected Communities and Environmental Justice Concerns

The communities facing the greatest potential impact from spills are of course the communities along the pipeline route. We are concerned that the SDEIS does not adequately recognize that some of these communities may have limited emergency response capabilities and consequently may be more vulnerable to impacts from spills, accidents and other releases. This is particularly likely to be true of minority, low-income and Tribal communities or populations along the pipeline route. We appreciate your agreement to address this issue in the Final EIS by clarifying the emergency response capability of each county along the pipeline route using the plans produced by Local Emergency Planning Committees. We also appreciate your agreement to identify potential mitigation measures in the Final EIS based on this information. We look forward to working with your staff to identify data sources and approaches for addressing these issues.

As part of this analysis, we are concerned that the SDEIS may have underestimated the extent to which there are communities along the pipeline with less capacity to respond to spills and potentially associated health issues, particularly minority, low-income or Tribal communities. We appreciate your agreement to re-evaluate in the Final EIS which communities may have such capacity issues by adopting the more commonly-used threshold of 20% higher low-income, minority or Tribal population compared to the general population, instead of the 50% used in the SDEIS.

With respect to data on access to health care, we are encouraged that the SDEIS provided critically important information on medically underserved areas and on health professional shortage areas. We will provide recommendations on methods to present this data to make it

<sup>1</sup> 40 CFR 1502.14; "Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations," 46 FR 18026 (1981) - Question 2a: Alternatives Outside the Capability of Applicant or Jurisdiction of Agency.

more meaningful to reviewers and will work with your staff as you move towards publishing a Final EIS.

The SDEIS does recognize that minority, low-income or Tribal populations may be more vulnerable to health impacts from an oil spill, and we appreciate the applicant's commitment to provide an alternative water supply "if an accidental release from the proposed Project that is attributable to Keystone's actions contaminates groundwater or surface water used as a source of potable water or for irrigation or industrial purposes..." (SDEIS, pg. 3-154). Further, the SDEIS states that impacts would be mitigated by the applicant's liability for costs associated with cleanup, restoration and compensation for any release that could affect surface water (SDEIS, pg. 3-154). We believe that this mitigation measure should also apply for releases that could affect groundwater. Finally, we recommend that the Final EIS evaluate additional mitigation measures that would avoid and minimize potential impacts through all media (i.e., surface and ground water, soil, and air) to minority, low-income and Tribal populations rather than rely solely on after-the-fact compensation measures. Some examples of additional mitigation include developing a contingency plan before operations commence for emergency response and remedial efforts to control the contamination. This would also include providing notification to individuals affected by soil or groundwater contamination, ensuring the public is knowledgeable and aware of emergency procedures and contingency plans (including posting procedures in high traffic visibility areas), and providing additional monitoring of air emissions and conducting medical monitoring and/or treatment responses where necessary.

#### Environmental and Health Impacts to Communities Adjacent to Refineries

We are also concerned with the conclusion that there are no expected disproportionate adverse impacts to minority or low-income populations located near refineries that are expected to receive the oil sands crude, particularly because many of these communities are already burdened with large numbers of high emitting sources of air pollutants. It is not self-evident that the addition of an 830,000 barrels per day capacity pipeline from Canada to refineries in the Gulf Coast will have no effect on emissions from refineries in that area. We recommend that the Final EIS re-examine the potential likelihood of increased refinery emissions, and provide a clearer analysis of potential environmental and health impacts to communities from refinery air emissions and other environmental stressors. As part of this re-evaluation, we encourage the State Department to provide more opportunities for people in these potentially affected communities to have meaningful engagement, including additional public meetings, particularly in Port Arthur, Texas, before publication of the Final EIS. Public meetings in these potentially affected communities provide an opportunity for citizens to present their concerns, and also for the State Department to clearly explain its analysis of potential impacts associated with the proposed project to the people potentially affected.

#### Lifecycle GHG Emissions

We appreciate the State Department's efforts to improve the characterization of lifecycle GHG emissions associated with Canadian oil sands crude. The SDEIS confirms, for example, that Canadian oil sands crude are GHG-intensive relative to other types of crude oil, due primarily to increased emissions associated with extraction and refining.

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The SDEIS also includes an important discussion of lifecycle GHG emissions associated with oil sands crude and provides quantitative estimates of potential incremental impacts associated with the proposed Project. For example, the SDEIS (pg. 3-198) states that under at least one scenario, additional annual lifecycle GHG emissions associated with oil sands crude compared to Middle East Sour crude are 12 to 23 million metric tons of CO<sub>2</sub> equivalent (CO<sub>2</sub>-e) at the proposed Project pipeline's full capacity (roughly the equivalent of annual emissions from 2 to 4 coal-fired power plants).<sup>2</sup> While we appreciate the inclusion of such estimates, EPA believes that the methodology used by the State Department and its contractors to calculate those estimates may underestimate the values at the high-end of the ranges cited in the lifecycle GHG emissions discussion by approximately 20 percent. We will continue to work with your staff to address this concern as you move towards publishing a Final EIS.

Further, in discussing these lifecycle GHG emissions, the SDEIS concludes "on a global scale, emissions are not likely to change" (SDEIS, pg. 3-197). We recommend against comparing GHG emissions associated with a single project to global GHG emission levels. As recognized in CEQ's draft guidance concerning the consideration of GHG emissions in NEPA analyses, "[T]he global climate change problem is much more the result of numerous and varied sources, each of which might seem to make a relatively small addition to global atmospheric GHG concentrations."<sup>3</sup>

Moreover, recognizing the proposed Project's lifetime is expected to be at least fifty years, we believe it is important to be clear that under at least one scenario, the extra GHG emissions associated with this proposed Project may range from 600 million to 1.15 billion tons CO<sub>2</sub>-e, assuming the lifecycle analysis holds over time (and using the SDEIS' quantitative estimates as a basis). In addition, we recommend that the Final EIS explore other means to characterize the impact of the GHG emissions, including an estimate of the "social cost of carbon" associated with potential increases of GHG emissions.<sup>4</sup> The social cost of carbon includes, but is not limited to, climate damages due to changes in net agricultural productivity, human health, property damages from flood risk, and ecosystem services due to climate change. Federal agencies use the social cost of carbon to incorporate the social benefits of reducing CO<sub>2</sub> emissions into analyses of regulatory actions that have a marginal impact on cumulative global emissions; the social cost of carbon is also used to calculate the negative impacts of regulatory actions that increase CO<sub>2</sub> emissions.

Finally, we continue to be concerned that the SDEIS does not discuss opportunities to mitigate the entire suite of GHG emissions associated with constructing the proposed Project. We appreciate your agreement to identify practicable mitigation measures in the Final EIS for

<sup>2</sup> <http://www.epa.gov/cleanenergy/energy-resources/calculator.html>

<sup>3</sup> "Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions," (February 18, 2010)

<sup>4</sup> "Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866," Interagency Working Group on Social Cost of Carbon, United States Government, February 2010. Presents four estimates of estimated monetized damages associated with a ton of CO<sub>2</sub> released in 2010 (\$5, \$21, \$35, \$65) (\$2007); these estimates grow over time and are associated with different discount rates.

GHG emissions associated with operation of the pipeline in the United States. As part of that analysis, we recommend consideration of opportunities for energy efficiency and utilization of green power for pipeline operations. In addition, we recommend a discussion of mitigation approaches for GHG emissions from extraction activities that are either currently or could be employed to help lower lifecycle GHG emissions to levels closer to those of conventional crude oil supplies. We recommend that this discussion include a detailed description of efforts ongoing and under consideration by producers, as well as the government of Alberta, to reduce GHG emissions from oil sands production.

#### Wetlands Impacts

EPA co-administers the Clean Water Act Section 404 regulatory program, which regulates the discharge of dredged or fill material into waters of the United States, including wetlands. While we appreciate that the U.S. Army Corps of Engineers is responsible for day-to-day processing of permit applications, our review of aerial photography recently posted on the Project's website indicates that the DEIS may have underestimated the extent of ecologically valuable bottomland hardwood wetlands in Texas. We appreciate your agreement to evaluate these wetland estimates in the Final EIS and to display the location of the bottomland hardwood wetlands with maps and aerial photography. Given their ecological importance, we recommend the same evaluation be done for prairie pothole wetlands that may be impacted by the proposed Project. EPA also recommends that the Final EIS discuss whether it is possible to make further pipeline route variations to avoid both bottomland hardwood and prairie pothole wetlands.

Our review of the aerial photography also indicates that there may be numerous wetland crossings that would impact more than 0.5 acres of wetlands, which is the upper threshold for impacts under the US Army Corps of Engineers' (Corps) nationwide general permit for utility line crossings in waters of the United States. In that light, and recognizing that there will be several hundred acres of wetlands affected along the entire pipeline route, we recommend that the Corps review the proposed wetland impacts as a single project requiring an individual Clean Water Act Section 404 permit. Consolidating each of these crossings into one individual permit review would also provide for more transparency as to the project impacts and allow for more effective mitigation planning, as well as compliance monitoring of the entire project.

Finally, we appreciate your agreement to provide a discussion of potential mitigation measures for project activities that permanently convert forested wetlands to herbaceous wetlands. We continue to recommend providing a conceptual wetland mitigation plan in the Final EIS, including a monitoring component that would, for a specified period of time, direct field evaluations of those wetlands crossed by the pipeline (and mitigation sites) to ensure wetland functions and values are recovering. We also recommend that the Final EIS evaluate the feasibility of using approved mitigation banks to compensate for wetlands impacts.

#### Migratory Birds

The SDEIS includes a summary of regulatory and other programs aimed at protecting migratory bird populations that may be affected by oil sands extraction activities in Canada. However, we recommend that the Final EIS provide additional information that would address

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potential impacts to specific migratory species, with an emphasis on already-vulnerable species, and we appreciate your agreement to provide that information in the Final EIS. Data found in the North American Breeding Bird Survey (a partnership between the U.S. Geological Survey's Patuxent Wildlife Research Center and the Canadian Wildlife Service's National Wildlife Research Center), which monitors bird populations and provides population trend estimates, should be helpful. We also recommend that the Final EIS discuss mitigation measures that are either currently or could be employed for identified impacts.

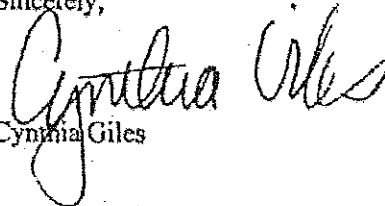
### Conclusion

Based on our review, we have rated the SDEIS as "Environmental Objections - Insufficient Information (EO-2)" (see enclosed "Summary of Rating Definitions and Follow-up Actions"). As explained in this letter, we have a number of concerns regarding the potential environmental impacts of the proposed Project, as well as the level of analysis and information provided concerning those impacts. Our concerns include the potential impacts to groundwater resources from spills, as well as effects on emission levels at refineries in the Gulf Coast. In addition, we are concerned about levels of GHG emissions associated with the proposed Project, and whether appropriate mitigation measures to reduce these emissions are being considered. Moreover, the SDEIS does not contain sufficient information to fully assess the environmental impacts of the proposed Project, including potential impacts to groundwater resources and communities that could be affected by potential increases in refinery emissions.

We look forward to continuing to work with you to strengthen the environmental analysis of this project and to provide any assistance you may need to prepare the Final EIS. In addition, we will be carefully reviewing the Final EIS to determine if it fully reflects our agreements and that measures to mitigate adverse environmental impacts are fully evaluated. We look forward as well to working with you as you consider the determination as to whether approving the proposed project would be in the national interest under the provisions of Executive Order 13337.

Please feel free to contact me at (202) 564-2400, or have your staff contact Susan Bromm, Director, Office of Federal Activities, at (202) 564-5400, if you have any questions or would like to discuss our comments.

Sincerely,

  
Cynthia Giles

Enclosure

TRANSFERRED to EPA for DIRECT REPLY

LB

NO OBJECTION TO FULL RELEASE

U.S. Environmental Protection Agency  
Detailed Comments – Keystone XL Project Draft EIS

Greenhouse Gas Emissions

We appreciate the inclusion of estimates of GHG emissions from the pipeline construction and operation. With regard to GHG emissions from refining, we recognize that incremental GHG emissions will depend on the feedstock being replaced, and we appreciate the efforts to provide an estimate in the Draft EIS. Given the potential large volumes of emissions, we recommend that the State Department explain in more detail the reasons for the very large range (i.e., 1.3 to 17.2 million tons of CO<sub>2</sub>) of the estimate, and provide complete citations for the data and analyses used (i.e., the BP Whiting data, the Natural Resources Defense Council analysis, and the University of Toronto study). In addition, we recommend that the State Department provide information that would allow decision makers to understand the total, as well as incremental, GHG emissions expected from refining the oil sands.

Air Quality Impacts

EPA recommends that the revised Draft EIS provide additional information and analysis regarding potential emissions of pollutants at the receiving refineries and other associated facilities. EPA is prepared to assist the State Department in this analysis; as a first step, we recommend compiling the following information:

- 1) Describe the expected composition (crude slate) of the oil sands crude that will be transported through the pipeline, including sulfur and nitrogen content.
- 2) Describe whether the oil sands crude is pre-processed in Canada before shipment, and if so, describe the expected pre-processing and the expected characteristics of the crude before and after the pre-processing.
- 3) Indicate which of the following refineries are anticipated to have direct access to the proposed project, have contracted to receive the oil sands crude and in what quantities.

ConocoPhillips, Ponca City, OK  
Sinclair/Holly, Tulsa, OK  
Sunoco/Holly, Tulsa, OK  
Valero, Ardmore, OK  
Wynnewood Refining, Wynnewood, OK  
Motiva, Port Arthur, TX  
Total, Port Arthur, TX  
Valero, Port Arthur, TX  
ExxonMobil, Beaumont, TX  
Pasadena Refining, Pasadena, TX  
Houston Refining, Houston, TX  
Valero, Houston, TX  
Deer Park Refining, Deer Park, TX



ExxonMobil, Baytown, TX  
 BP, Texas City, TX  
 Marathon Oil, Texas City, TX  
 Valero, Texas City, TX  
 Calcasieu, Lake Charles, LA  
 CITGO Lake Charles, LA  
 ConocoPhillips, Lake Charles, LA

- 4) Indicate which of the refineries listed above are expected to receive oil sands crude from the proposed project but do not currently appear to have agreements in place.
- 5) Indicate whether the refineries that receive the oil sands crude from the project are expected to use it to replace existing supplies; if so, provide available information on the current crude slate utilized at these refineries, including sulfur and nitrogen content.
- 6) Indicate how many U.S. refineries already receive oil sands crude and whether they have been required to apply for new or modified permits; if so, indicate what type of refinery upgrades have been required and how have emissions been affected after they began processing the oil sands crude oil.

We also recommend that the revised Draft EIS provide information as to whether any new storage capacity would be required in Port Arthur or at the Moore Junction in Harris County, and whether any additional air permits for processing the crude oil would be required in Beaumont/Port Arthur, Texas and in Harris County, Texas. We recommend that the potential for air quality impacts associated with increased emissions from storage and processing be addressed in the revised Draft EIS.

With regard to air quality impacts from construction activities, while these emissions may be temporary, we do not believe it is appropriate to conclude that the construction activities would not significantly affect local or regional air quality without a full analysis. We appreciate the inclusion of an emission inventory for construction and operation of the proposed project; however, since the Draft EIS does not present an air quality impact analysis of these potential emissions, the potential for localized impacts or impairment on Class I areas is not clear. We note that the cumulative 3-year construction emissions depicted in Table 3.12.1-9 are significant (e.g., 1,142 tons NO<sub>x</sub>), but since these figures are presented at project-wide scale, the potential impacts to the individual Class I and Sensitive Class II areas are not apparent. We recommend that the revised Draft EIS provide emissions information on a more useful scale, such as per spread (the Draft EIS states that the project will be built in 17 spreads) and make clear what distance and time the emissions are spread over. EPA recommends that the revised Draft EIS include a detailed emissions control plan to address concerns related to the potential impacts of particulate matter emissions, as well as diesel emissions. The existing fugitive dust control plan presented in the Draft EIS contains some reasonable types of emission controls, such as water trucks; however, the level of detail currently provided may not ensure protection of air quality. We also recommend that the emissions control plan identify when mitigation measures would take effect, the duration of mitigation measures, and how compliance with the plan would be ensured.

We recommend that the revised Draft EIS clarify the time period used to quantify the estimated emissions associated with the electrical pumps that will be used at the pump stations – see Table 3.12.1-10 (Estimated Direct Emissions for the Project).

### Pipeline Safety/Spill Response

It is critical that surface and ground water protection, particularly protection of public water supplies and source water protection/wellhead protection areas, receive high priority in the NEPA analysis and decision making. In many areas of potential project routing, the shallow alluvial ground water systems may be the only sources of potable water for public and rural domestic use. All appropriate precautions and actions to reduce the probability of a spill or leak occurring, to reduce the magnitude of a spill or leak, and to otherwise mitigate the adverse consequences of such an event, should be taken.

Additional comments, specific to Section 3.13 of the Draft EIS (*OIL SPILL RISK ASSESSMENT AND ENVIRONMENTAL CONSEQUENCE ANALYSIS*), are provided below.

#### Section 3.13 Introduction

Footnote 1: The Federal Water Pollution Control Act and the Clean Water Act use the term “discharge” when referring to oil spills. Suggest adding “discharge” or “oil discharge” to terms that equate to a release. Additionally, oil products may be present in any water used to hydrostatically test the pipeline prior to being placed in service. We recommend that the revised Draft EIS provide information on the potential impacts, if any, from discharges of hydrostatic testing water, which may be used to pressurize the pipeline.

#### Section 3.13.1.3 Industry Standards

The revised Draft EIS should include the applicable standards from the list presented in 49 CFR 195.3 that are specific to breakout tanks.

#### Section 3.13.2.2 TransCanada Company-Specific Oil Pipeline Operating History

To properly characterize the operating history with respect to environmental impacts (and specifically to waters of the U.S.), we recommend that there be a discussion of enforcement cases/actions related to pipeline oil discharges (or pipeline related pump stations or construction activities) which caused harm, as defined by 40 CFR 110, and were required to be reported to the National Response Center. We recommend that the revised Draft EIS presents oil spills (discharges) in the context of both Department of Transportation (DOT) and EPA enforcement of oil spill cases.

#### Section 3.13.3.3 Construction Spills

We recommend that the revised Draft EIS clarify that there are a significant number of requirements in 40 CFR 112 in addition to the requirement for containment at

SPCC regulated facilities. In addition, we recommend that the revised Draft EIS clarify that the construction operations may require the development of SPCC plans per 40 CFR 112, and that a discussion of the reporting procedures for oil discharges under 40 CFR 110 for these construction activities be provided. Finally, please use 40 CFR 112 as the correct citation for EPA's regulation that applies for spill prevention.

#### Section 3.13.4 Impacts Related to Oil Spills

We recommend that analysis of the potential of impacts of oil spill discharges be revised to reflect information available in Natural Resource Damage Assessments (NRDAs) conducted by Federal Trustees in response to major pipeline incidents. The current discussion in the Draft EIS is limited with regard to actual documented impacts, and we suggest these NRDAs, several of which have been generated in response to major oil spills from pipelines, be reviewed and used as a source for information regarding the environmental impacts from pipeline oil spills.

#### Section 3.13.4.5 Keystone Actions to Prevent, Detect, and Mitigate Oil Spills

##### Spill Response Procedures

We recommend that the revised Draft EIS clarify that the SPCC plans only apply to the non-transportation related equipment and activities at pump stations and breakout tank farms and to pipeline construction activities. The SPCC plan employs measures to prevent spills and mitigate spills on the facility grounds in order to prevent oil discharges to waters of the US. The pipeline itself is regulated by DOT and response preparedness is addressed by the plans required by DOT under 49 CFR 194. It should be noted however, these plans should be shared with EPA response personnel (On Scene Coordinators) in the EPA Regions because EPA is typically the federal responder to inland pipeline spills and responsible for inland area planning required in the National Contingency Plan, 40 CFR 300. Finally, non-transportation related equipment and activities at pump stations/breakout tank farms may require the submission and some cases, approval, of a Facility Response Plan (FRP) as required under 40 CFR 112.20. In addition, the spill reporting procedures in the Draft SPCC plan should be expanded to include procedures to report to federal and local responders, in addition to the NRC and state responders.

##### Spill Response Equipment

As mentioned earlier, without the actual data explaining the oil's chemical and physical characteristics, the efficacy of traditional "floating oil" spill response equipment is in question. Again, this reflects the importance of obtaining all relevant information related to the bitumen oil/synthetic crude's chemical and physical characteristics.

### Section 3.13.4.6 Types of Oil Spill Impacts

#### Chemical and Toxicological Impacts

Because the exact composition of the PAH content of the oil is not documented, it is difficult to determine any long-term risks from a spill to the aquatic environment. In addition, there is no analysis of impacts to downstream water intakes (both industrial and municipal), nor recognition that oil spills reaching these intakes may impact fire-fighting capabilities at the facility or municipality.

#### Environmental Justice

EPA believes that additional work is needed to better identify and address potential adverse effects of the proposed project on low-income, minority and Tribal populations, and we offer the following summary comments.

**Air Emissions:** EPA recommends that the revised Draft EIS analyze whether minority, low income and Tribal populations, may be exposed to greater risks from air emissions from the project, with a specific focus on emissions from refineries receiving oil sands. We recommend that the revised Draft EIS include a health risk assessment to address these issues.

**Drinking Water:** We recommend additional analysis of whether minority, low income and Tribal populations may be especially vulnerable to drinking water contamination from oil spills because they often obtain their drinking water from private wells or small public water supply systems for which monitoring and treatment of contaminants may be limited or non-existent. In performing this analysis, we recommend that the same "region of influence" be used to evaluate potential impacts for both public and private water supplies.

**Local Emergency Response Capacity:** We recommend that information and data produced for Local Emergency Response Planning Committees, created pursuant to the Emergency Response Planning and Community Right to Know Act, be evaluated to determine available response capacity of those counties that have meaningfully greater minority, low income and Tribal populations.

**Access to Medical Services:** EPA is concerned that access to medical facilities for minority, low-income and Tribal populations may not have been fully evaluated; these populations may be especially vulnerable to human health impacts of oil spills due to their lack of access to medical care, combined with potential health disparities. EPA recommends that the revised Draft EIS evaluate these potential impacts and means to minimize or mitigate the impacts in those counties that are designated as medically underserved areas.

**Public Involvement:** We recommend that as the State Department continues the NEPA process it ensure that efforts are taken to provide meaningful opportunities for public involvement, including measures to address populations that are linguistically or culturally isolated, and ensuring full accessibility of NEPA documents to minority, low income and Tribal populations. Translation of selected documents may be important for public involvement and also for developing mitigation measures in those areas where a significant percentage of the

households speak a language other than English at home. We also recommend that the revised Draft EIS provide a summary of the efforts taken to inform and involve low income, minority and Tribal populations. In addition, we recommend that an Enhanced Public Participation Plan be developed that would provide up-to-date information to communities during project construction and operation.

#### Additional Issues Related to Impacts on Tribes

EPA recommends that the State Department provide additional information regarding its efforts to consult with Tribal governments, along with measures to address issues raised by non-federally recognized Tribes. We also recommend that impacts to Tribal populations and communities that are associated with their conditions of poverty be further evaluated, including potential impacts due to subsistence consumption of fish, wildlife and vegetation that may be contaminated by oil spills, potential endangerment of drinking water sources, and language/cultural barriers which may impede capacity for public involvement in developing mitigation measures.

The Draft EIS discussion of impacts to Tribes is limited to an identification and count of the number of counties with a higher percentage of Native Americans than the state percentage, and a section on archaeological resources, historic resources (buildings, structures, objects, and districts), and properties of religious and cultural significance, including Traditional Cultural Properties (TCPs). The Draft EIS does not address potential impacts to Tribal members and communities along the pipeline, or to Tribal culture and traditional practices. We recommend a more rigorous analysis of potential for impact to Tribes be included in a revised Draft EIS.

For example, in some areas, impacts may be compounded by the presence of poverty and the high percentage of Native Americans. Coal, Hughes, Okfuskee, Seminole, and Pontotoc Counties in Oklahoma have both high percentages of Native American residents (in contrast with the state's percentage) and high poverty levels. Nacogdoches County in Texas also has a high percent of Native Americans compared with the State, as well as a relatively high poverty level. In these areas, a large portion of the population may rely on hunting, fishing, gathering and other means of subsistence due to both tradition and necessity. They may be disproportionately impacted by spills that reach waters and impact fisheries, or affect areas where food is traditionally obtained.

We recommend that the revised Draft EIS clarify the extent of Indian country lands potentially impacted by the proposed project, including Tribal trust and allotted Tribal member land. We also recommend that the revised Draft EIS address the potential impacts to areas where Tribes may have unadjudicated claims to water bodies that could be affected by spills from the proposed pipeline (e.g., Clear Boggy and its tributaries in Coal County, Oklahoma).

Finally, we recommend that additional information be provided regarding potential impacts to the Arbuckle Simpson aquifer in Oklahoma, which is located east of the proposed pipeline route. In particular, we recommend including specific information regarding the distance of the pipeline to the aquifer, the direction of groundwater flow in the area, and the potential for a plume from an underground leak to reach the aquifer.

### Wetlands

Pursuant to 33 CFR 332.4 and 40 CFR 230.94, *Compensatory Mitigation for Losses of Aquatic Resources (Mitigation Rule)*, a compensatory mitigation plan must be submitted and approved by U.S. Army Corps of Engineers (USACE) before issuance of an individual CWA Section 404 permit. EPA recommends that the USACE/EPA regulations that address compensatory mitigation for losses of aquatic resources be reviewed, and that compensatory mitigation consistent with these regulations (73 Fed. Reg. 19594, April 10, 2008, [http://www.usace.army.mil/CECW/Pages/final\\_cmr.aspx](http://www.usace.army.mil/CECW/Pages/final_cmr.aspx)) be developed that will adequately compensate for potential losses of wetland functions and services from pipeline construction and operation along the entire route be included in the revised Draft EIS. Additionally, we recommend that the revised Draft EIS include a conceptual wetland monitoring plan that would, throughout a period of time (normally five years), direct field evaluations of those wetlands crossed by the pipeline to assure wetland functions and values are recovering. The monitoring plan should also include the wetland mitigation sites. EPA prefers wetland mitigation take place in areas as close to the project site as practicable (i.e., in close proximity and, to the extent possible, the same watershed) in order to replace lost functions and services.

The Draft EIS states "Implementation of measures in Keystone's Construction, Mitigation and Reclamation (CMR) Plan (Appendix B) would avoid or minimize most impacts on wetlands associated with construction and operation activities, and would ensure that potential effects would be primarily minor and short term." Impacts to forested wetlands are long-term and would be considered permanent. We recommend that Keystone work with each EPA Region and USACE district to determine what kind of compensation would be required for the permanent conversion of forested wetland to herbaceous wetland, and Keystone continue to work with the EPA Regions and the USACE Districts to develop a Wetland Mitigation Plan for review and consideration in the revised Draft EIS.

We recommend that the revised Draft EIS provide additional information on the proposed widths of construction zones and right-of-ways for all wetland crossings, along with a clearer explanation of which wetland areas will be re-vegetated and which will not allow re-establishment of scrub-shrub and forested wetlands. In addition, we recommend including a clearer explanation of which wetlands are considered "of special concern and value" and which are considered "standard," as well as the management implications of those designations.

Of particular importance are impacts to prairie pothole wetlands and bottomland hardwood forested wetlands, as these resources are of generally high ecological importance and difficult to replace on the landscape. Whenever practicable, potential impacts to prairie pothole wetlands should be avoided using horizontal directional drilling (HDD) techniques, rather than trenching.

We recommend that the revised Draft EIS provide additional information on the status of the efforts to avoid locating specific mainline valves in wetland areas.

The Draft EIS indicates that there are nine forested wetland crossings in Oklahoma and 78 in Texas, and a total of 261 acres of forested wetlands will be affected during construction

and 137 acres will be affected by pipeline operation. However, these estimates do not include the number of acres disturbed by associated access roads or construction camps; we recommend that these estimates be revised to include all potential impacts.

We also recommend that the revised Draft EIS address compliance with E.O. 11990 (Protection of Wetlands), including the requirement to ensure mitigation of unavoidable impacts to all wetlands and waters of the U.S. on Federal lands and facilities.

Equal mitigation commitments should be made for connected actions, including transmission lines. EPA agrees with the suggestions provided on page 3.4-12 of the Draft EIS, and recommends that these suggestions be applied to all wetlands, including both non-jurisdictional and jurisdictional. These additional measures include a request that pre- and post-construction monitoring plans be developed for depressional wetlands of the prairie pothole region, and that wetlands that no longer pond water after the pipeline is installed should receive additional compaction, replacement, or at the landowner's or managing agency's discretion, compensatory payments should be made for drainage of these wetlands. Recommendations are also included that Keystone should develop a plan to compensate for permanent wetland losses in areas of concern to the National Park Service and Texas Parks and Wildlife.

#### Water Resources

We recommend that further commitments to protect sensitive waterbodies be provided. The Draft EIS states that 341 perennial waterbodies would be crossed during the construction of the proposed project, and that four techniques would be used to cross perennial waterbodies: the open-cut wet method, the dry flume method, the dry dam-and-pump method, or, horizontal directional drilling (HDD). For each perennial waterbody crossing, a site specific engineering and geomorphologic analysis would determine the best method to use to avoid and reduce aquatic impacts. Based on available information, we understand that the open-cut wet method has the greatest potential for water quality impacts. Open-cut wet trench methods with a flowing river often require a wide ditch since the side walls of the ditch are likely to be unstable in alluvial material, and this often results in discharge of substantial quantities of sediment into the river. Such methods generally result in increased sediment production and transport, and increased risks of adverse effects to water quality and aquatic life. Directional drilling beneath waterbodies or constructing waterbody crossings using coffer dams and pumping to keep the construction work area dry are considered less damaging techniques than wet trench crossings. EPA recommends the revised Draft EIS evaluate potential impacts to water quality, aquatic species, riparian and wetland habitat from the various water crossing methods to determine which method would be both practicable and environmentally preferable.

To ensure protection of drinking water supplies, we recommend that private water wells within 1 mile of the pipeline be identified, rather than within 100 feet, as currently described in the Draft EIS. We recommend that Keystone be required to notify state source water protection officials and private well owners before construction would begin in a Source Water Protection Area (SWPA) or wellhead protection area. Pipeline routing alternatives that avoid Sole Source Aquifers, SWPAs, and wellhead protection zones are preferred; if the pipeline route is unable to avoid these areas, EPA recommends that specific mitigation measures be developed, including

installation of double lining, corrosion protection, cathodic protection, water quality monitoring, and state-of-the-art leak detection methods.

If public or private wells would be located within 100 feet of the proposed pipeline route, we recommend that Keystone be required to sample the wells for appropriate petroleum indicator compounds as part of baseline monitoring, and additional monitoring, as appropriate. We also recommend that water quality monitoring would need to be made available for well and/or spring owners, upon request. Moreover, we recommend that Keystone would mitigate impacts to wells that may occur during construction or by pipeline spills/leaks, by transporting potable water to the affected site, drilling a new well, or other appropriate measures. Applicable mitigation measures should be described in the revised Draft EIS.

EPA also notes that the Ogallala Aquifer is a critical resource that may be affected by the proposed project, as it is the drinking water source for almost 80% of Nebraska's residents, as well as a multi-state agricultural industry. We recommend that the revised Draft EIS provide additional information as to the potential for adverse impacts to this resource.

We are pleased that Keystone proposes to use horizontal directional drilling (HDD) for crossing the Niobrara River in Nebraska. However, we recommend that the revised Draft EIS include a discussion of the Niobrara River's status as a National Scenic River (<http://www.nps.gov/niob/index.htm>) and how the proposed crossing would not conflict with its status as a National Scenic River.

We appreciate the information provided in Appendix E-4 ("Waterbodies within 10 Miles Downstream of Proposed Water Crossings"). Based on our review of this appendix, we note that that there are numerous proposed water crossings that are located upstream of water supply reservoirs. We recommend that the revised Draft EIS include an analysis of potential impacts to these reservoirs in the event of a spill. There are also many points where the potential alignment of the pipeline will cross stream or river segments which are not attaining the state Water Quality Standards and thus a Total Maximum Daily Load (TMDL) has been prepared; special considerations should be applied to prevent contributing to pollutant loads when crossing these sensitive resources.

The Draft EIS states (p. 3.3-29) that the Lower Brule to Witten 230-kV transmission line would have "negligible effects on water resources" - we recommend that additional information be provided to support this conclusion.

#### Ancillary Facilities

Due to the large number of potential ancillary facilities, including 50 permanent access roads, 30 new pump stations, 74 mainline valves, two crude oil delivery sites and a tank farm, disclosure of the location of these facilities and evaluation of site-specific impacts should be provided to the maximum extent possible. EPA notes, for example, that impacts to wetlands from ancillary facilities and access roads outside of the 110-foot ROW have not yet been identified and assessed. While EPA recognizes that the exact locations of all the ancillary facilities required for support of construction and operation of the pipeline have not yet been



determined, their omission may result in underestimation of potential impacts of the proposed project. The locations, lengths, and designs for ancillary facilities should be identified and described as clearly and completely as possible in the revised Draft EIS to allow understanding of all site-specific impacts.

Additionally, the Draft EIS does not clearly describe where the right of way (ROW) would be reduced to protect "certain sensitive areas, which may include wetlands, cultural sites, shelterbelts, residential areas, or commercial/industrial areas" (Draft EIS, p. 2-3). EPA recommends that the revised Draft EIS clearly define, using maps and/or a table with milepost numbers, where the reduced ROW would be implemented. This information should be summarized in each of the resource chapters of Chapter 3 – Environmental Analysis to enable the reader to easily understand when extra protection would be provided to sensitive resources.

#### **Hazardous Materials Sites**

We recommend that the revised Draft EIS identify any Hazardous Materials Sites that may be located within the proposed ROW or other areas associated with the project, and include plans for minimizing potential impacts from accidental disturbance during construction. The response plans should include measures to minimize impacts to communities from removal of any potential hazardous materials.